



EP 0065617

DEC 1982

04884 J/49	A97 E23 G02 T04	IBM 18.05.81	A(12-VV7D) E(25-E) G(2-A4A)																																				
IBM CORP	18.05.81-US-264760 (01.12.82) C09d-11/02	*EP--65-617	089																																				
Prepn. of water-based inks for ink jet devices - by thermal stress of ink concentrates, filtration, and addn. of inhibitors of particle formation			solubilization of impurities (with HCl). Heating is pref. for 60-65 hrs. at 50°C, and the final formulation is pref. filtered (e.g. through 'Celite' (RTM)) to remove any insol. oils.																																				
D/S: E(DE FR GB IT)			<u>COMPOSITION</u>																																				
H ₂ O-based ink (I) for ink jet devices is prep'd. as follows: (a) a diluted H ₂ O-based concentrate of (I) is formed which is free of agents (II) known to inhibit particle formation and/or growth; (b) the concd. ink is heated for long enough to produce particle formation and/or growth; (c) the concd. ink is filtered; and (d) an aq. vehicle and (II) are added.			<table border="1"> <thead> <tr> <th></th> <th>A (wt.%)</th> <th>B (wt.%)</th> </tr> </thead> <tbody> <tr> <td>Nigrosine dye</td> <td>14.0</td> <td>7.0</td> </tr> <tr> <td>Carbowax 200 (RTM)</td> <td>20.0</td> <td>10.0</td> </tr> <tr> <td>Diethylene glycol</td> <td>20.0</td> <td>10.0</td> </tr> <tr> <td>N-methyl-2-pyrrolidone</td> <td>8.0</td> <td>4.0</td> </tr> <tr> <td>Butyl carbitol</td> <td>8.0</td> <td>4.0</td> </tr> <tr> <td>Versenol 120 (RTM)</td> <td>0.5</td> <td>0.5</td> </tr> <tr> <td>Triton QS-44 (RTM)</td> <td>0.4</td> <td>0.2</td> </tr> <tr> <td>Na Omadine</td> <td>0.2</td> <td>0.1</td> </tr> <tr> <td>NH₄OH</td> <td>2.0</td> <td>1.0</td> </tr> <tr> <td>Water</td> <td>27.4</td> <td>62.95</td> </tr> <tr> <td>Surfynol 104</td> <td>-</td> <td>0.25</td> </tr> </tbody> </table>		A (wt.%)	B (wt.%)	Nigrosine dye	14.0	7.0	Carbowax 200 (RTM)	20.0	10.0	Diethylene glycol	20.0	10.0	N-methyl-2-pyrrolidone	8.0	4.0	Butyl carbitol	8.0	4.0	Versenol 120 (RTM)	0.5	0.5	Triton QS-44 (RTM)	0.4	0.2	Na Omadine	0.2	0.1	NH ₄ OH	2.0	1.0	Water	27.4	62.95	Surfynol 104	-	0.25
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<u>ADVANTAGES</u>			(16pp478).																																				
The method affords a non-toxic, H ₂ O-based ink-jet ink (partic. for use in continuous stream devices) which has high tolerance to evapn., and good light and H ₂ O-fastness. In addn., the ink shows exceptionally rapid paper penetration, resists particle growth, and remains stable under stresses such as heat, cold, and evapn.			(E) ISR:- GB2031002																																				
<u>DETAILS</u>			EP--65617																																				
The concd. ink pref. includes a purified and/or press-cake dye, pref. nigrosine, which is pref. purified by																																							

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10392 K/05 HONSHU PAPER MFG KK 12.05.81-JP-070233 (17.11.82) B41m-05 D21h-01/28	A82 F09 G02 P75 (A13) HONP 12.05.81 *J57187-289	A(4-C4, 4-F1, 5-B3, 12-B3, 12-W7F) F(5-A6B) G(2-A5C, 5-F) 2 2 3
Ink-jet recording sheet for use with water-based inks - has coating contg. pigment and binder including styrene-alkyl maleate-acrylic terpolymer or terpolymer-cationic organic cpd. prod.		maleate/acrylate terpolymer ammonium salt, 120 g of calcined kaolin, 60 g of powdery urea/formaldehyde resin, 0.1 g of antifoaming agent and 0.1 g of sodium pyrophosphate were homogenised for about 1 hr. A 52 g/m ² wood-free paper sheet was coated with the compsn. to form a 4 g/m ² coating layer, which was then calendered with a linear pressure of 5 kg/cm, to obtain the ink-jet recording sheet. (9ppW173).
C83-010173	An ink-jet recording sheet having a coating layer composed mainly of a binder and a pigment is characterised in that 50 wt.% or more of the binder is (i) a terpolymer prepared by copolymn. of styrene, a monoalkylmaleate and an acrylic comonomer, or (ii) a reaction product prepared from the terpolymer and a cationic organic cpd. The use is claimed of calcined kaolin (or its mixture with powdery ureaformaldehyde resin) as the pigment. <u>USE/ADVANTAGE</u> The sheet is used for recording with water-based inks. Ink-set time is short, and reduced spreading of the ink combined with improved lightfastness of the records is obtained. <u>EXAMPLE</u> 600 g of 15 wt.% an aqs. soln. of styrene/monoalkyl	